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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,694	08/23/2001	Kazutaka Takeuchi	862.1329 DII	9312
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FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112				
			EXAMINER AFTERGUT, JEFF H	
			ART UNIT	PAPER NUMBER

1733

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/934,694

Applicant(s)

TAKEUCHI ET AL.

Examiner

Jeff H. Aftergut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 69-76 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 69-76 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 72-75 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 72, the applicant recites that the leading and trailing ends of the wound film "form butted portions on opposite sides of at least one turn of the wound film", however it would appear that applicant was not in possession of the same.

More specifically, the applicant claims the invention of the embodiment depicted in Figures 42-47 (described as the thirteenth embodiment) in claim 69 which requires that the thermoplastic sheet film be wound on the columnar member at least two turns, see lines 3-6 of claim 69. The applicant is advised that it is not seen how the ends of the films can be butted together when there must be a layer of the film between the ends of the film as the film had to make at least two turns about the forming member. As such, it would appear that applicant was not in possession of the invention as now claimed in claim 72. It should be noted that claim 73 which recites that the ends of the wound film are obliquely cut to form a spiral formed butted portion is only described with the application of a single turn about the columnar member (as described with reference to Figure 27 and what appears to be the eleventh embodiment). Likewise claims 74-75 recite specific angular relationships of the ends where claim 75 is

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specifically recited in Figure 39 (the twelfth embodiment where only a single film was wound upon the columnar member in a single turn) and in Figure 51 (the fifteenth embodiment wherein two separate films were wound about the columnar member but the film having the oblique cut therein is only wound a single turn about the mandrel) and not directly discussed with reference to the thirteenth embodiment to which claim 69 is directed. As such, it would appear that the applicant was not in possession of the claimed invention as an abutted end was only envisioned in those embodiments where a single turn of the sheet took place and not at least two turns as recited in claim 69 and as described in reference to the thirteenth embodiment. Note that in the thirteenth embodiment the ends of the films rested along a common imaginary plane as depicted and applicant could claim the same.

3. Claims 72-75 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is not clear how one can possibly abut the ends of the film ("form butted portions") when the film was wound about the columnar member at least two turns as depicted in Figures 42-47 and described therein.

Applicant is advised that one skilled in the art would not have known how to make and/or use the invention as different embodiments have been mixed together in these claims and it is not clear how one can wind the film two turns and attain an abutting end profile as described in the claims.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 72-75 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant recites in claim 72 that the leading and trailing ends are butted against one another, however it is not clear how this can be achieved as depicted in Figure 44 in the embodiment claimed where at least two turns were provided, the ends 74a and 74b are not butted together. It is not known what is meant by "butted against each other" in claim 72 (i.e. is applicant attempting to create another meaning for butted other than that which is conventional for such language). The language "butted against each other" is not clear and concise as to the relative position of the film ends. It is suggested that as depicted in Figure 44, applicant recite that the ends rest in a common imaginary plane.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 69, 71, 72, 74 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 7-205274 in view of Japanese Patent 55-57429.

The reference to Japanese Patent 7-205274 taught the formation of the tubular member. The reference suggested that one skilled in the art would have wound a film more than once completely about the mandrel 2 and joined the ends of the film via melt bonding. The ends are disposed at the same circumferential position in the rejoin of the joint along the same plane. The reference to Japanese Patent 7-205274 failed to teach that one skilled in the art would have

known to employ an exterior mold about the same in the heat welding of the ends of the film to form the tubular member.

The references to Japanese Patent '429 suggested that in the formation of a tubular film it was known at the time the invention was made to dispose a film about a mandrel, assemble the mandrel into a tubular mold member and heat the assembly to form a weld for the ends of the film and yield a tubular member (after the heating operation the mandrel and mold were removed to yield the tubular member). Such would have been produced with the use of materials, which had a coefficient of thermal expansion suitable to provide pressure to the thermoplastic film to provide a good joint in the same. It should be noted that the arrangement was provided such that one skilled in the art would have produced a tubular film of uniform thickness after processing (because the gap between the mandrel and the tubular molding member would have been uniform. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the techniques of Japanese Patent 55-57429 in the process of making a tubular film with welded ends as taught by Japanese Patent 7-205274.

With regard to dependent claim 71, note that the reference to Japanese Patent '429 defined the thickness of the final tubular member as a function of the gap of the mandrel and the exterior mold. Regarding claim 71, note that the reference to Japanese Patent '274 suggested that the ends of the film would have been disposed in a common plane in order to ensure that the finished assembly at the joint had a uniformity in thickness and one skilled in the art at the time the invention was made would have performed the same in order to ensure the finished assembly had uniformity in thickness. Regarding claim 74, the reference to Japanese Patent '274 depicted providing the cut at the specified angle (90 degrees to the surface of the film).

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8. Claim 70 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 7 further taken with Japanese Patent 5-131555 and optionally further taken with Anderson.

While the reference to Japanese Patent '429 suggested the overall operation where the plastic material which was disposed upon the form was expanded against the exterior mold to shape the same, the reference did not expressly suggest that such an pressing and shaping operation would have incorporated an internal mandrel which expanded to a greater extent than the exterior mold of the assembly in order to apply pressure during the molding operation. The reference to Japanese Patent '555 suggested that it was known at the time the invention was made to incorporate such an arrangement wherein one employed a mandrel or core having a higher thermal expansion coefficient than an exterior mold wherein a tubular member was molded by application of heat to the assembly to melt the plastic and shape the same as the plastic material was confined between the expanded interior molding member and the exteriorly disposed mold. As such would have ensured adequate pressure during the molding operation in Japanese Patent '429 (or an increase in the pressure applied to the molding material), it would have been within the purview of one having ordinary skill in the art at the time the invention was made to incorporate a core with a higher coefficient of thermal expansion than the exterior mold such that during application of heat to melt the plastic material the mandrel or core was expanded to apply pressure to the plastic during the shaping of the same against the exterior mold as suggested by Japanese Patent 5-131555 in the process as set forth above in paragraph 7 for forming a tubular member.

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It should be noted that the material of the mandrel in Japanese Patent 5-131555 was a ptfe core, however those skilled in the art of molding tubular members with an expandable core which expanded as a function of application of heat due to the thermal coefficient of expansion of the material, would have understood that different materials for the core would have been suitable alternative to ptfe as evidenced by Anderson who suggested that the core would have been suitably formed from ptfe (Teflon) or other suitable materials including nylon, phenol formaldehyde with a sisal felt fiber, or ptfe, see column 3, lines 6-27. Note that the mandrel 1 is expanded when heat was applied in order to help shape the material disposed upon the mandrel as the resin was set during the shaping in Anderson. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a mandrel made from a material having a high coefficient of thermal expansion such as those of Anderson when shaping a material against an externally disposed mold as was performed by Japanese Patent 5-131555 in the process of making a tubular member as set forth above in paragraph 7. It should be noted that the use of an alternative material for the expanding core with heat such as those proposed by Anderson in place of the ptfe cores of Japanese Patent '555 would have been within the purview of the ordinary artisan as merely substitution of one known means for another wherein the expandable core materials both served the same purposes.

Amendments to the Claims

9. Applicant is advised that the amendment is not complete in that the amendment indicates that claims 1-69 are canceled and then proceeds to present claim 69. For purposes of this Office Action it was assumed that claim 69 was not intended to be cancelled, however applicant is requested in the response to clarify whether claim 69 is pending or cancelled.

Response to Arguments

10. Applicant's arguments filed May 20, 2004 have been fully considered but they are not persuasive.

The applicant argues that there is support in the original disclosure for the butting of the ends of the film which was wound at least twice about the mandrel, however as noted above, such is not supported by the original disclosure. The "SECTION E" of Figure 44 defined a plane wherein both end portions of the film terminated at the plane and were disposed at the common plane at the ends. The ends of the film are NOT butted which requires that the ends be in contact with one another. In every instance where one provided for more than one turn of the film about the mandrel or form, there cannot be an abutting of the ends, however the end portions can lie within the same plane. It should be noted that the end portions as depicted run parallel with the axis of the mandrel and that the cut ends have portions which are perpendicular to the surface of the film. There is no disclosure of providing obliquely cut ends or end portions having an angle other than 90 degrees in the thirteenth embodiment as described with reference to Figures 42-47 (the elected invention/species).

The prior art rejection is being maintained as it is deemed one skilled in the art would have been motivated to employ the molding and heating operation of Japanese Patent '429 in the

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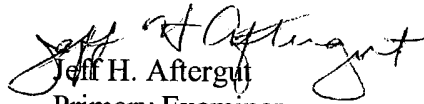
operation of Japanese Patent '274 in order to ensure uniformity in the thickness of the finished assembly which the '429 was able to attain. Applicant's argument that there is no rationale to make the combination is not persuasive in this regard.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jeff H. Aftergut
Primary Examiner
Art Unit 1733

JHA
July 12, 2004